

Listing of the Claims:

A listing of the entire set of pending claims is submitted herewith per 37 CFR 1.121. This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Previously Presented) A user input system, comprising:
means for generating an alternating magnetic field;
a user-holdable device comprising
 a resonant circuit,
 a coil for coupling to ground along substantially the length of the user-holdable device, and
 a conducting tip,
the coil for coupling to ground being coupled to a first side of the resonant circuit and the conducting tip being coupled to a second side of the resonant circuit, the resonant circuit being operable to provide an alternating voltage induced from the alternating magnetic field when positioned in the vicinity of the means for generating an alternating magnetic field; and
means for sensing an output provided at the conducting tip due to the alternating voltage source when the conducting tip is in the vicinity of the means for sensing an output.
2. (Previously Presented) A system according to claim 1, wherein the means for sensing an output provided by the conducting tip comprises means for determining the strength of the output as sensed at plural locations and means for comparing the plural sensed output strengths to determine a position of the conducting tip relative to the plural locations.
3. (Previously Presented) A system according to claim 1, wherein the sensing means comprises a resistive sheet and current measuring means arranged to measure a capacitive current flowing from the conducting tip to the resistive sheet.

4. (Previously Presented) A system according to claim 1, wherein the sensing means comprises an electric field sensing reception electrode and current sensing circuitry for determining a current excited in the electric field sensing reception electrode by an electric field generated by the conducting tip.

5. (Previously Presented) A system according to claim 4, wherein the sensing means is arranged to substantially filter out currents produced in the electric field sensing reception electrode by electric fields generated by the means for generating an alternating magnetic field.

6. (Previously Presented) A system according to claim 5, wherein the filtering out is performed using a difference in phase between the electric field generated by the means for generating an alternating magnetic field and the electric field generated by the conducting tip.

7. (Previously Presented) A system according to claim 1, wherein shielding is provided to substantially block any electric field generated by the means for generating an alternating magnetic field and substantially allow to pass the magnetic field generated by the means for generating an alternating magnetic field.

8. (Previously Presented) A system according to claim 4, arranged to determine the distance of the conducting tip from the plane of the electric field reception electrode, compare the determined distance to a predetermined threshold value, and if the determined value is less than or equal to the threshold then treat the conducting tip position as input and if the determined value is greater than the threshold then not treat the conducting tip position as input.

9. (Previously Presented) A system according to claim 1, wherein the user-holdable device is for use as a pen or stylus.

10. (Previously Presented) A system according to claim 9, wherein the conducting tip is adapted to provide a writing feel to the user.

11. (Previously Presented) A system according to claim 1, wherein the user-holdable device comprises an external housing by which the user is to hold the user-holdable device, and wherein the coil for coupling to ground is such that the coupling to ground is made via the user's hand when the user is holding the user-holdable device.

12. (Previously Presented) A system according to claim 11, wherein the coil for coupling to ground is further arranged to reduce shielding of the resonant circuit from the magnetic field generated by the means for generating an alternating magnetic field.

13. (Previously Presented) A system according to claim 11, wherein the housing is made of a dielectric material such that the housing represents the dielectric of a capacitor formed between the coil for coupling to ground and the user's hand.

14. (Previously Presented) A system according to claim 13, wherein the resonant circuit is positioned in the user-holdable device at a location away from the coil for coupling to ground.

15. (Previously Presented) A system according to claim 12, wherein the coil for coupling to ground is further arranged to couple the resonant circuit to the user's hand whilst substantially allowing the magnetic field generated by the means for generating an alternating magnetic field to reach the resonant circuit.

16. (Previously Presented) A system according to claim 1, further comprising means for sensing a user's finger.

17. (Previously Presented) A system according to claim 16, wherein the sensing means comprises a resistive sheet and current measuring means arranged to measure a capacitive current flowing from the conducting tip to the resistive sheet, and wherein the means for sensing the user's finger comprises the resistive sheet, the current measuring means, and means for distinguishing between sensing of the user's finger and sensing of the user-holdable device.

18. (Previously Presented) A system according to claim 16, wherein the sensing means comprises an electric field sensing reception electrode and current sensing circuitry for determining a current excited in the electric field sensing reception electrode by an electric field generated by the conducting tip, and wherein the means for sensing a user's finger comprises an electric field sensing transmission electrode, the electric field sensing reception electrode, and circuitry for sensing changes caused by the user's finger to a current excited in the electric field sensing reception electrode by an electric field generated by the electric field sensing transmission electrode.

19. (Previously Presented) A system according to claim 1, further comprising one or more further user-holdable devices, respective user-holdable devices having different tuned frequencies.

20. (Previously Presented) A display device comprising a user input system according to claim 1.

21. (Previously Presented) A display device according to claim 20, wherein the sensing means is arranged to sense the output provided by the conducting tip in an area corresponding to a display area of the display device.

22. (Previously Presented) A display device according to claim 20, wherein the display device is an active matrix liquid crystal display device.

23. (Previously Presented) A display device according to claim 20, wherein the sensing means comprises a resistive sheet and current measuring means arranged to measure a capacitive current flowing from the conducting tip to the resistive sheet, and wherein the resistive sheet is provided by a common electrode of the display device.

24. (Previously Presented) A user-holdable device for a user to provide input to a user input system, comprising:

a resonant circuit;

a coil for coupling to ground along substantially the length of the user-holdable device; and

a conducting tip;

the coil for coupling to ground being coupled to a first side of the resonant circuit and the conducting tip being coupled to a second side of the resonant circuit, the resonant circuit being operable to provide an alternating voltage induced from an alternating magnetic field.

25. (Original) A device according to claim 24, for use as a pen or stylus.

26. (Previously Presented) A device according to claim 25, wherein the conducting tip is adapted to provide a writing feel to the user.

27. (Previously Presented) A device according to claim 24, comprising an external housing by which the user is to hold the user-holdable device, and wherein the coil for coupling to ground is such that the coupling to ground is made via the user's hand when the user is holding the user-holdable device.

28. (Previously Presented) A device according to claim 27, wherein the coil for coupling to ground is further arranged to reduce shielding of the resonant circuit from the magnetic field generated by the means for generating an alternating magnetic field.

29. (Previously Presented) A device according to claim 27, wherein the housing is made of a dielectric material such that the housing represents the dielectric of a capacitor formed between the coil for coupling to ground and the user's hand.

30. (Previously Presented) A device according to claim 29, wherein the resonant circuit is positioned in the user-holdable device at a location away from the coil for coupling to ground.

31. (Previously Presented) A device according to claim 28, wherein the coil for coupling to ground is further arranged to couple the resonant circuit to the user's hand whilst substantially allowing magnetic fields to reach the resonant circuit.

32. (Previously Presented) A set of user-holdable devices, comprising a plurality of user-holdable devices according to claim 24, wherein each user-holdable device has a different tuned frequency.

33. (Previously Presented) A method of sensing user input, comprising:
generating an alternating magnetic field that passes in to a user-held device;
inducing an alternating voltage in the user-held object from the alternating magnetic field;

providing coupling to ground by a coil extending substantially along the length of the user-held device;

providing an output from the alternating voltage at a conducting tip of the user-held device; and

sensing, by time-multiplexing, the output when the user-held device is positioned or moved such that the conducting tip is in the vicinity of a sensing means, or when a user's finger is positioned or moved such that the user's finger is in the vicinity of the sensing means;

wherein said time-multiplexing provides a means for distinguishing between sensing of the user's finger and sensing of the user-held device.

34. (Previously Presented) A method according to claim 33, wherein the sensing means comprises a resistive sheet and current measuring means; and sensing the output comprises using the current measuring means to measure a capacitive current flowing from the conducting tip to the resistive sheet.

35. (Previously Presented) A method according to claim 33, wherein the sensing means comprises an electric field sensing reception electrode and current sensing means; and sensing the output comprises using the current sensing means to determine a current excited in the electric field sensing reception electrode by an electric field generated by the conducting tip.